"NON-CONVICTION" DNA DATABASES AND CRIMINAL JUSTICE: A COMPARATIVE ANALYSIS

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ABSTRACT

Common law countries share a growing receptiveness to the use of DNA (deoxyribonucleic acid) in criminal investigation and prosecution, with the formalisation and steady expansion of schemes of DNA collection and retention. Despite a general consensus regarding the significance and value of genetic material in criminal justice, there is considerable divergence in terms of the populations from whom DNA may be collected and the length of time for which DNA may be retained. This article takes a comparative approach by assessing the trajectory of the law relating to DNA collection and retention in a range of common law jurisdictions, and ascertains how aspects of particular countries' laws seek to resolve common problematic issues that arise concerning human rights, in particular the rights to bodily integrity, of privacy and the presumption of innocence. It identifies a common international movement to a risk-based approach and concludes that of the comparator jurisdictions the Canadian model provides the most fitting accommodation for human rights in DNA database expansion.

I. INTRODUCTION

Legal systems across the Commonwealth and beyond share a growing receptiveness to the use of DNA (deoxyribonucleic acid) in criminal investigation and prosecution, with the formalisation and steady expansion of schemes of DNA collection and retention. Gathering genetic material from crime scenes and individuals and running checks against existing records entail numerous potential benefits in the crime control sense: the ready and speedy identification of suspects, the exclusion of innocent and wrongly suspected parties from police focus, the exoneration of the wrongfully convicted, and the deterrence of some would-be criminal actors due to the increased chance of detection. Moreover, on-going storage of genetic material permits speculative or "cold" searching which hastens investigations and may provide leads for hitherto unsolved crimes. This contributes to a general consensus regarding the significance and value of genetic material in criminal investigations; however, common law countries diverge considerably in terms of the populations from whom DNA may be acquired and the length of

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time for which DNA may be retained. Collecting DNA from convicted adults and storing it in state databases is seen now as a relatively uncontroversial and proportionate incursion on human rights, given that it is predicated on a finding of guilt, but policies and practices relating to children and to unconvicted persons are more contentious normatively speaking and thus far from settled in a legal sense.[1]

This article takes a comparative approach in assessing the trajectory of the law relating to DNA collection and retention in a number of common law jurisdictions, and ascertains how aspects of particular laws seek to resolve common problematic issues that arise concerning human rights. The focus here is on competent adults alone, rather than also including children which would necessitate consideration of issues regarding consent, bodily integrity, labelling and reintegration which are particularly pertinent and controversial regarding minors.[2] In the context of unconvicted adults, the non-consensual collection of genetic material encroaches on the right to bodily integrity especially, while the subsequent storage of DNA arguably affects the right to privacy as well as the presumption of innocence. The expansion of laws regarding non-conviction[3] DNA collection and retention in many jurisdictions may be explained by broad trends away from a rights-oriented paradigm towards a more populist and punitive model, by the emphasis in political discourse and practice on the need to avert risk, and the desire to "rebalance" the criminal justice system in favour of the victim and the wider community. However, the competing demands that relate to criminal justice have been resolved differently when it comes to DNA collection and retention, thereby rendering some countries' schemes more problematic in terms of human rights than others.

After describing the implications for criminal justice of DNA in a broad sense, the article will consider a number of key precepts which may be affected by DNA collection and subsequent retention, namely the right to bodily integrity, the right of privacy and the presumption of innocence. It will focus on how existing laws in a range of common law jurisdictions have sought to address these concerns.

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[1] See Liz Campbell, 'A rights-based analysis of DNA retention: "Non-conviction" databases and the liberal state' [2010] Crim.L.R. 889.

[2] See Liz Campbell and Nessa Lynch, 'Competing paradigms? The use of DNA in youth justice in New Zealand and Scotland', staff seminar, Victoria University of Wellington, New Zealand, December 2010.

[3] The term "non-conviction" DNA retention is used throughout this piece as shorthand for storage of DNA which is not dependent on a criminal conviction and occurs regardless of the results of a criminal investigation or prosecution. The only viable alternative term, "pre-conviction", may suggest that a conviction does indeed follow, which is not the case.

Throughout, the extent to which these comparator countries have influenced each other, in terms of policy adoption or avoidance, will be noted. Crime control measures in the United States often represent a prototype for other countries, in terms of the usual trend and direction of policy transfer.[4] However, rather than the "American exceptionalism" so often cited in criminological literature,[5] until recently England and Wales has stood as somewhat of an anomaly in regards to DNA surveillance with the most expansive scheme of DNA retention for innocent persons in the common law world. Notably, this is now to be amended. The shared theme evident in the comparator jurisdictions is a shift to a risk-oriented model of DNA in criminal justice, although the Canadian approach appears most cognisant of the human rights implications of the expansion of DNA databases.

II. THE USE OF DNA IN CRIMINAL INVESTIGATIONS

The genetic material in human DNA determines physical characteristics and traits, genetic disorders, susceptibility to disease and ethnic origin. An individual's DNA is unique (except in the case of identical twins) and is inherited from both one's parents. As more similarities may be seen in the DNA of siblings and family members when compared with unrelated persons, DNA may reveal familial relationships. Thus, a DNA sample contains a range of intimate personal and family information. In contrast, a DNA profile, generated from a sample, is a code comprising a set of identifying characteristics from regions of DNA that are not known to provide for any physical characteristics or medical conditions of the person. A DNA profile consists of a list of numbers based on specific areas of DNA known as short tandem repeats and a gender indicator, and thus may only be read and interpreted with the aid of technology.[6] While profiles are computerised, they still contain "substantial amounts of unique personal data",[7] including information about familial relationships and ethnic origin.

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[4] Trevor Jones and Tim Newburn, 'Learning from Uncle Sam? Understanding US Influences over UK Crime Control Policy' (2002) 15(1) Governance 97; Tim Newburn, 'Atlantic crossings: "Policy transfer" and crime control in the USA and Britain' (2002) 4 Punishment and Society 165.

[5] See for example Trevor Jones and Tim Newburn, *Policy Transfer and Criminal Justice: Exploring US Influence over British Crime Control Policy* (Open University Press 2007), 5.

[6] Parliamentary Office of Science and Technology, *Postnote: The National DNA Database*, Number 258 (2006) <http://www.parliament.uk/documents/post/postpn258.pdf> accessed May 2, 2011.

[7] *S. v. U.K.*, 48 E.H.R.R. 1169 (Grand Chamber of the European Court of Human Rights), [73]-[76].

Many misconceptions exist about DNA evidence, insofar as it is often viewed as infallible and beyond question. However, as with other forms of physical evidence, the potential for false positives exists. The profiling system used in the United Kingdom uses ten regions of DNA whereas a previous system used six; in Australia nine loci are used; in the United States and Canada 13 are used and in New Zealand 15.[8] Thus, an "adventitious match" could occur between two DNA profiles, and this becomes more likely the fewer loci are used; although it has been argued that further testing of additional DNA loci would distinguish between two such individuals' DNA, except in the case of identical twins.[9] Moreover, contamination could occur at the time the swab was taken, or during comparison in the laboratory. Furthermore, human error in storage, processing or interpretation is always possible, as in the context of other evidence. It is also conceivable for a positive match to be found between crime scene material and a suspect's DNA without necessarily implying criminal culpability, either by virtue of innocent presence at a particular location or through the "planting" of evidence. Finally, despite popular media portrayal, not all crime scenes are swabbed for genetic material due to logistical, practical or financial reasons, and so comparison with database profiles is not always part of an investigation.

III. DNA DATABASES

Despite points of commonality, and evidence of a degree of convergence, some notable differences persist between current laws on non-conviction DNA databases in a range of common law countries. England and Wales may be characterised as occupying one end of the spectrum insofar as its policies until 2011 were the most permissive, while Canada maintains the most restrictive laws.

The United Kingdom's National DNA Database (NDNAD) was set up in 1995 and contains genetic material gathered from all over

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[8] Parliamentary Office of Science and Technology (n.6), 1; New South Wales Centre for Genetics Education, 'Fact Sheet 22: DNA Genetic Testing – Paternity and Forensic Use' <http://www.genetics.com.au/factsheet/fs22.asp#para_2> accessed May 2, 2011; Federal Bureau of Investigation, 'Frequently Asked Questions (FAQs) on the CODIS Program and the National DNA Index System' <http://www.fbi.gov/about-us/lab/codis/codis-and-ndis-fact-sheet> accessed May 2, 2011; Standing Committee on Public Safety and National Security, House of Commons Canada, *Statutory Review of the DNA Identification Act*, June 2009 (40th Parliament, 2nd Session), 2; Institute of Environmental Science and Research, *A brief history of Forensic DNA 1990-2010* <http://www.esr.cri.nz/SiteCollectionDocuments/ESR/PDF/ForensicScience/Forensic20yearsDNA.pdf> accessed May 2, 2011.

[9] National DNA Database Strategy Board, *National DNA Database Annual Report 2007-09* (NOIA 2009), 42.

the UK. Proportionately speaking the NDNAD is the largest of its kind in the world and contained 7.39 per cent of the UK population in 2009,[10] while the most recent figures indicate almost nine per cent coverage.[11] Second chronologically only to the United Kingdom, a DNA database was established in New Zealand in 1995, and this was followed at federal level in the United States with establishment of the Combined DNA Index System (CODIS) and the National DNA Index System (NDIS) in 1998.[12] Canada's National DNA Data Bank has been in place since 2000,[13] and the National Criminal Investigation DNA Database (NCIDD) was constructed in Australia in 2001.[14] Though the value of DNA in criminal investigations is not disputed, policies relating to the parameters of these databases and the duration of DNA storage are in flux.

IV. THE COLLECTION OF DNA

While collection of genetic material on the one hand and retention on the other overlap in respect of their consequences they raise slightly different issues. Collecting DNA from an individual encroaches on his right to physical integrity,[15] by virtue of the seizure of his bodily material through an invasive procedure, and given that force may be used to obtain the sample if consent is not forthcoming.[16] The degree of intrusion on the right to physical integrity, as protected through provisions relating to privacy or prohibiting unreasonable

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[10] Constitution Committee, *Surveillance: Citizens and the State* (HL 2008-09, 18-I), para. 180.

[11] National Policing Improvement Agency, 'National DNA Database – Statistics' <http://www.npia.police.uk/en/13338.htm> accessed May 2, 2011.

[12] Federal Bureau of Investigation (n.8).

[13] *DNA Identification Act* 1998, amending the *Criminal Code of Canada*. See Sylvain Lalonde, 'Canada's National DNA Data Bank: A Success Story' (2006) 39 Canadian Society of Forensic Science Journal 1.

[14] See David Whiley and Barbara Hocking, 'DNA: Crime, Law and Public Policy' [2003] University of Notre Dame Australia Law Review 4; (2003) 5 University of Notre Dame Australia Law Review 37; Jeremy Gans and Gregor Urbas, 'DNA Identification in the Criminal Justice System', in *Trends and Issues in Crime and Criminal Justice* (Australian Institute of Criminology 2002) No. 226; Simon Walsh, Oliver Ribaux, John Buckleton, Alastair Ross and Claude Roux, 'DNA profiling and criminal justice: a contribution to a changing debate' (2004) 36 Australian Journal of Forensic Sciences 34.

[15] Though the privilege against self-incrimination may appear relevant in this context, case law has excluded tangible evidence decisively from its scope: *Saunders v. U.K.*, 23 E.H.R.R. 313, [69] (European Court of Human Rights); *Schmerber v. California*, 384 U.S. 757 (1966), 761; *R. v. S.A.B.* [2003] SCC 60, [2003] 2 S.C.R. 678. See Jeremy Gans, 'Something to Hide: DNA, surveillance and self-incrimination' (2001) Current Issues in Criminal Justice 168.

[16] See text accompanying n.42, *post*.

searches,[17] is affected by the stage at which sampling occurs, the threshold for the offence and the means of sampling. Key differences exist between common law countries in terms of the populations from whom DNA samples may be taken, ranging from anyone arrested, through persons arrested for certain offences of a minimum gravity, or after the issue of a warrant in specific instances. In addition, the method by which DNA is collected, that is whether through a blood sample or buccal swab, may also determine the impact on human rights.

A. The population of the databases

In the United Kingdom, the United States and now New Zealand, the police may collect DNA without judicial approval from a wide range of suspects. In England, Wales and Northern Ireland a DNA sample may be taken from any individual arrested for or informed that he will be reported for a recordable offence,[18] whether or not he is detained in a police station or in police custody.[19] The equivalent Scottish measures are slightly narrower: a bodily sample may be collected from a person detained or arrested for an offence punishable by imprisonment.[20] Since the enactment of the *DNA Fingerprinting Act* of 2005,[21] DNA sample collection has been required by United States' agencies "from individuals who are arrested or from non-United States persons who are detained under the authority of the United States".[22] In addition, a sizeable minority of American states now have laws authorising arrestee DNA sampling, although this pertains to felonies or offences punishable by a minimum period of imprisonment only.[23] The *Criminal Investigations (Bodily Samples)*

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[17] European Convention on Human Rights, Art. 8; Fourth Amendment to the US Constitution; *Canadian Charter of Rights*, ss.7 and 8; and *New Zealand Bill of Rights Act* 1990, s.21.

[18] A recordable offence is one which carries the possibility of a custodial sentence as well as other, non-imprisonable offences in the schedule to the *National Police Records (Recordable Offences) Regulations* 2000 (S.I. 2000 No. 1139).

[19] *Police and Criminal Evidence Act* 1984 and the *Police and Criminal Evidence (Northern Ireland) Order* 1989 (S.I. 1989 No. 1341), as amended by the *Criminal Justice and Police Act* 2001 and the *Criminal Justice Act* 2003.

[20] *Criminal Procedure (Scotland) Act* 1995, s.18. For further analysis of the Scottish scheme, see Paul Johnson and Robin Williams, 'DNA and Criminal Investigation: Scotland and the "UK National DNA Database"' (2004) Scottish Journal of Criminal Justice Studies 10; and Liz Campbell, 'DNA Databases and Innocent Persons: Lessons From Scotland?' (2010) 4 Juridical Review 285.

[21] Passed as Title X of the *Violence Against Women and Department of Justice Reauthorization Act* 2005, Public Law 109-162, 119 Stat. 2960.

[22] *ibid*., 3085 (s.1004(a)(1)).

[23] Alaska, Arizona, California, Kansas, Louisiana, Maryland, Michigan, Minnesota, New Mexico, North Dakota, South Carolina, South Dakota, Tennessee, Texas, Vermont and Virginia have laws authorising arrestee DNA sampling. See the

Amendment Act 2009 in New Zealand changes the time at which the person's DNA can be acquired compulsorily to arrest (rather than after conviction as was previously the case), it removes the need for judicial authorisation before the taking of a sample, and lowers the offence threshold considerably. Once the 2009 Act is implemented fully, police will be able to collect DNA from persons suspected of having committed an imprisonable offence or another offence listed in the Act's schedule (such as assault, receiving stolen goods, or peeping into a dwelling).[24]

This outline indicates that many common law countries are increasing gradually the scope and populations of DNA databases, by permitting collection at arrest or charge, rather than it being predicated on conviction as was once the case. Moreover, judicial approval is not required in the United Kingdom, United States or New Zealand. However Canada and Australia differ somewhat from the other comparator jurisdictions, in limiting collection to indictable offences and in requiring a warrant for DNA collection in certain instances. In Australia, the *Crimes Act* 1914 (as amended) permits the collection of a forensic sample from a person suspected of having committed an indictable offence, or charged with or summonsed to appear before a court in relation to an indictable offence.[25] If the suspect is in custody, a senior constable may authorise non-intimate sampling, but a court order is required for intimate procedures.[26] If the individual is not in custody sample collection must be based on a court order. Furthermore, Canada has even more strongly resisted automatic non-conviction DNA collection and retention by police. Collection may occur only with a court warrant and in relation to a suspected indictable offence, if the best interests of the administration of justice necessitate a comparison between that person's DNA and material found at a crime scene.[27] Thus, while DNA testing and banking in Canada has been described as symptomatic of a trend in criminal justice away from an emphasis on individual rights towards increased state control,[28] in fact Canada retains one of the more

website of the National Conference of State Legislatures: <http://www.ncsl.org/IssuesResearch/CivilandCriminalJustice/StateLawsonDNADataBanks/tabid/12737/Default.aspx> accessed May 2, 2011.

[24] Pt 2B, inserting s.24J into the *Criminal Investigations (Bodily Samples) Act* 1995.

[25] See Australian Law Reform Commission, *Essentially Yours: The Protection of Human Genetic Information in Australia* [2003] A.L.R.C. 96. See also David Ormerod and Andrew Roberts, 'DNA sampling and database – Australia' [2005] Crim.L.R. 330.

[26] S.23WC.

[27] S.487.05.

[28] Neil Gerlach, *The Genetic Imaginary: DNA in the Canadian Criminal Justice System* (University of Toronto Press 2004) 219.

limited schemes,[29] despite pressure from opposition political parties at the time the *DNA Identification Act* 1998 was being debated.[30] In its 2009 review of the relevant legislation, the Standing Committee on Public Safety and National Security recommended the automatic taking of a DNA sample upon conviction for all designated offences, but did not address systematic non-conviction DNA collection or retention.[31] Indeed, the Canadian government is now proposing to expand the scheme by taking DNA from any individual charged with an indictable offence,[32] demonstrating a possible shift to a model more akin to other common law jurisdictions.

The compelling interest in DNA as a law enforcement tool and its importance in the detection of crime is stressed in many common law courts,[33] although in *S. v. United Kingdom*, the Grand Chamber of the European Court of Human Rights noted that most states allow such materials to be taken only from individuals suspected of having committed offences of a certain minimum gravity.[34] This approach is particularly evident in the United States and in Canada, while in New Zealand, the range of offences is being extended. The rationale for this is that the need to investigate more serious criminality warrants certain special measures, and conversely that bodily intrusions should not occur in relation to minor offences. Maintaining a threshold in this way so that DNA collection pertains to crimes of a certain gravity only limits the population of the database, and thus may be seen as proportionate. However, it is not apparent that the more serious the suspected offence the more we should permit limitations on the individual's rights pre-trial.[35] Either a crime control tactic is permissible or not in a rights' sense, and the apparent severity of the crime should not be of consequence.

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[29] See Julianne Parfett, 'Canada's DNA Databank: Public Safety and Private Costs' (2002-2003) 29 *Manitoba Law Journal* 33.

[30] Janet Hiebert, *Charter Conflicts: What is Parliament's Role?* (McGill-Queen's University Press 2002) *128*.

[31] Standing Committee on Public Safety and National Security (n.8), Recommendation 3.

[32] Canadian Civil Liberties Association (CCLA), 'CCLA Concerned about Potential Expansion of DNA Databank' (May 14, 2010) <http://ccla.org/2010/05/14/ccla-concerned-about-potential-expansion-of-dna-databank/> accessed May 2, 2011.

[33] *U.S. v. Kincade*, 379 F.3d 813 (9th Cir. 2004) (*en banc*); *Anderson v. Virginia*, 650 S.E.2d 702 (Vir. 2006), 706; *U.S. v. Pool,* 645 F. Supp. 2d 903 (2009), 912; *Haskell and Ento v. Brown*, 677 F. Supp. 2d 1187 (2009).

[34] *S. v. U.K.* (n.7), [106]-[108].

[35] Andrew Ashworth, *Serious Crime, Human Rights and Criminal Procedure* (Sweet and Maxwell 2002).

B. The method of DNA collection

In addition to the populations from whom DNA may be taken, the mechanism by which this occurs is also significant. In the United Kingdom, DNA is taken by police by means of a buccal (mouth) swab which is classified as a non-intimate sample and does not require consent,[36] in contrast to the characterisation in Australia of such a swab as intimate which must be taken by a medical practitioner or another "appropriately qualified" person.[37] In Canada and the United States, DNA is generally collected by means of a blood sample, while in New Zealand a *bodily sample* means either a blood or a buccal sample, although most profiles on the databank come from buccal scrapes.[38] In *Schmerber v. California* the United States Supreme Court emphasised that a compulsory blood test after arrest for driving while intoxicated was reasonable given the minimal extraction of blood, its effectiveness and widespread use, the virtual absence of risk or pain for most people, and its performance by a physician in a hospital environment.[39] Despite the absence of a specific Supreme Court case in point, for the most part, a Fourth Amendment analysis using a general balancing test has been applied in state and federal courts to uphold the collection of DNA samples from persons arrested for violent felonies on the basis that it entails a minimal privacy intrusion, and because of the diminished expectation of privacy of arrestees when compared with the general population and the compelling interest in DNA as a law enforcement tool.[40] Similarly, in *R. v. Rodgers* the Supreme Court of Canada found that the taking of a DNA sample by blood involves a "minimal" "impact on the physical integrity of the targeted offenders".[41]

If the person refuses to consent to bodily sampling, reasonable force may be used,[42] although in Canada any "necessary" force may be used to take the sample,[43] and the blood sample need not be taken by a medical physician. Walker and Cram have stated that "the prospect of force being used by the police to keep a suspect still and to hold his lips open whilst his mouth lining is scraped does seem to

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[36] *Criminal Justice and Public Order Act* 1994, s.58; *Criminal Procedure (Scotland) Act* 1995, s.18(6A).

[37] *Crimes Act* 1914, s.23WA.

[38] Institute of Environmental Science and Research (n.8), 7.

[39] *Schmerber v. California*, 384 U.S. 757 (1966), 771.

[40] See n.33.

[41] *R. v. Rodgers* [2006] 1 S.C.R. 554 (Supreme Court of Canada). See Andrew Roberts, 'Case Comment: DNA database – Canada' [2006] Crim.L.R. 866.

[42] *Crimes Act* 1914, s.23XJ (Australia); *Criminal Investigations (Bodily Samples) Amendment Act* 2009, s.48A (New Zealand); *Police and Criminal Evidence Act* 1984, s.117 (England and Wales); *Criminal Procedure (Scotland) Act* 1995, s.19B.

[43] *Criminal Code of Canada*, s.487.07.

be an extremely intrusive search".[44] However, the limited enduring effect on the individual and the usefulness for criminal investigation indicate scraping the side of someone's mouth for DNA collection is justifiable, as is the taking of a blood sample, as long as it is predicated on reasonable suspicion which is judicially approved, as in the case of Canada, and as long as only reasonable force is used, as in the United Kingdom. In this respect Redmayne's view of Walker and Cram's approach as unduly rigid seems persuasive, on the basis that it would lead to a loss of useful evidence and also that notions of bodily integrity and what constitutes acceptable investigative practice are not static.[45] Indeed, in New Zealand, if consent to taking bodily material is not forthcoming and thus if force is needed to be used, a fingerprick blood sample must be taken rather than a buccal swab,[46] indicating some divergence in terms of political and legal perceptions of physical intrusions, given the legislative preference for the latter in non-consensual situations in the United Kingdom.

The diminished expectation of privacy of arrestees when compared with the general population has been focused on in United States case law in particular in finding DNA collection to be constitutional.[47] The rights of the arrested or accused person are affected through searches, seizures and detention, although pre-trial, the state must provide reasonable grounds for suspecting involvement in a particular crime before limiting such rights. These accepted incursions are of comparable impact to the forcible scraping of the inside of the suspect's mouth or the taking of a blood sample, which is and should be permissible as long as grounded upon reasonable suspicion.

C. Warrant requirements

Many of the comparator jurisdictions permit DNA collection to be predicated on arrest and police discretion. However, the warrant requirement in Canada for any DNA collection is preferable because of the express articulation of reasonable suspicion and judicial involvement. Judicial approval of a warrant protects the DNA collection process from abuse, given the independent examination of police suspicions and reasoning which underpin the request for a bodily sample. Limiting the power to authorise DNA collection to judges ensures that an adequate detachment is maintained between

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[44] Ian G. Cram and Clive Walker, 'D.N.A. profiling and police powers' [1990] Crim.L.R. 479, 486-7.
[45] Mike Redmayne, 'The DNA database: civil liberty and evidentiary issues' [1998] Crim.L.R. 437, 443.
[46] *Criminal Investigations (Bodily Samples) Amendment Act* 2009, s.48A.
[47] See n.33.

the investigating body and the appraiser of reasonable suspicion on which DNA collection is predicated.

Arrest must be based on reasonable suspicion, that is, an "articulable and particularised belief that criminal activity is afoot"[48] which has "an objective basis … based on facts, information, and/ or intelligence" and "can never be supported on the basis of personal factors".[49] However, arrest practices by the police may be discriminatory or premised on incorrect information or unjustifiable concerns.[50] Indeed, it was reported that in England and Wales "arrest for DNA sampling" has occurred,[51] although this has been denied by the Association of Chief Police Officers.[52] Regardless of the veracity of such claims, the interference involved in bodily sampling and the sensitivity of the data in DNA implies that collection should be strictly limited to cases where reasonable suspicion is established firmly in a court setting. Though the impact of a mouth swab or blood test on bodily integrity seems proportionate to the aim of crime control, permitting this to occur systematically upon arrest rather than at charge is dubious. Thus, as outlined, the Canadian approach in this context is preferable, given that express articulation of reasonable suspicion and judicial approval is required. Indeed, in *R. v. Briggs* the Ontario Court of Appeal found that the "best interests of the administration of justice" standard which needs to be satisfied before DNA collection and comparison could occur was constitutional as it requires the court to consider and balance privacy interests against the societal aim of crime control.[53]

In essence, it does not appear that there is robust normative opposition to the taking of DNA, as long as judicial approval is granted. What appears more problematic in a rights' sense is the effect of DNA retention on the right to privacy and on the presumption of innocence.

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[48] *Ornelas v. United States*, 517 U.S. 690 (1996), 695.

[49] Home Office, *Police And Criminal Evidence Act 1984, Code A: Code of Practice for the Exercise by: Police Officers of Statutory Powers of Stop and Search; Police Officers and Police Staff of Requirements to Record Public Encounters* (London 2011), para. 2.2.

[50] Nuffield Council on Bioethics, *The Forensic Use of Bioinformation: Ethical Issues* (London 2007), para. 4.23.

[51] Human Genetics Commission, *Nothing to Hide, Nothing to Fear?* (Department of Health 2009), para. 1.19.

[52] See Association of Chief Police Officers, 'Press Release' <http://www.acpo.police.uk/pressrelease.asp?PR_GUID={C24A0DF6-B7AA-4B5A-979B-27FD52310EA3}> accessed May 2, 2011; see also BBC, 'Police making arrests "just to gather DNA samples"' <http://news.bbc.co.uk/1/hi/uk/8375567.stm> accessed May 2, 2011.

[53] *R. v. Briggs* (2001) 157 C.C.C. (3d) 38.

V. DNA RETENTION AND THE RIGHT TO PRIVACY

The right to privacy is that most often cited in relation to DNA retention,[54] given the exceptional nature of genetic material which determines physical characteristics and traits, genetic disorders, susceptibility to disease and ethnic origin. While the storage and use of a DNA profile rather than a DNA sample may mitigate the impact on personal privacy, both forms affect the right to informational privacy, which is the right to retain control or at least oversight of data or material taken from or relating to oneself. The effect of DNA retention on privacy has been judged partly by the categories of people whose DNA may be retained, the duration of retention and the form in which DNA is stored. Keeping the genetic material of convicted persons has been approved by numerous common law courts,[55] but the situation concerning unconvicted persons is less clear.

A. Duration of retention

Until the *Protection of Freedoms Bill* 2011 is enacted, indefinite retention of DNA may occur in England, Wales and Northern Ireland after genetic material is collected upon arrest, regardless of whether the individual is charged or prosecuted or not.[56] Such retention must have been for the purposes of the prevention and detection of crime; the investigation of an offence; or the conduct of a prosecution. When challenged, the European Court of Human Rights found in *S. v. United Kingdom* that this "blanket and indiscriminate" retention of DNA violated the right to privacy and family life under Article 8 of

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[54] Andrew Roberts and Nick Taylor, 'Privacy and the DNA database' (2005) European Human Rights Law Review 381.

[55] *Jones v. Murray* 962 F.2D 302 (4th Cir. 1992); *U.S. v. Kimler* 335 F.3D 1132 (10th Cir. 2003); *Groceman v. U.S. Department Of Justice*, 354 F.3D 411 (5th Cir. 2004); *Green v. Berge*, 354 F.3D 675 (7th Cir. 2004); *U.S. v. Kincade*, 379 F.3D 813 (9th Cir. 2004), cert. denied 544 U.S. 924 (2005); *Nicholas v. Goord*, 430 F.3D 652 (2d Cir. 2005); *U.S. v. Sczubelek*, 402 F.3D 175 (3rd Cir. 2005); *Padgett v. Donald*, 401 F.3D 1273 (11th Cir. 2005), cert. denied 546 U.S. 820, (2005); *Wilson v. Collins*, 517 F.3D 421 (6th Cir. 2006); *U.S. v. Conley*, 453 F.3D 674 (6th Cir. 2006); *U.S. v. Hook*, 471 F.3d 766 (7th Cir. 2006); *U.S. v. Kraklio*, 451 F.3D 922 (8th Cir. 2006); *U.S. v. Weikert*, 504 F.3D 1 (1st Cir. 2007); *U.S. v. Amerson*, 483 F.3D 73 (2d Cir. 2007); *U.S. v. Kriesel*, 508 F.3D 941 (9th Cir. 2007); *U.S. v. Banks*, 490 F.3D 1178 (10th Cir. 2007); *R. v. S.A.B.* [2003] SCC 60, [2003] 2 S.C.R. 678. See also *Van Der Velden v. The Netherlands*, App. no. 29514/05 (European Court of Human Rights, December 7, 2006); *W. v. The Netherlands*, App. no. 20689/08 (European Court of Human Rights, January 20, 2009).

[56] *Police and Criminal Evidence Act* 1984, s.64(1)A; *Police and Criminal Evidence (Northern Ireland) Order* 1989 (S.I. 1989 No. 1341), as amended by the *Criminal Justice and Police Act* 2001.

the European Convention on Human Rights,[57] and thus a more restrictive model is currently being debated in the *Protection of Freedoms Bill*. The bill, as it stands at the time of writing (May 2011), permits non-conviction DNA retention for three years in the case of arrest for certain serious offences.[58] This may be extended for two years on application to a magistrates' court, with an appeal against this decision being permitted to the Crown Court.[59] Although material may be retained pending investigation or proceedings, it must be deleted after acquittal or discontinuance of proceedings for minor offences.[60]

In contrast to the scheme impugned in *S. v. United Kingdom*, specific time frames are provided in Scotland, Australia and New Zealand, and will soon be in England and Wales. Retention of genetic samples is permitted in Scotland only where there has been a prosecution, and only in relation to certain sexual or violent allegations,[61] and this found favour in the European Court.[62] In other words, retention is permitted if proceedings have been instituted rather than after arrest or charge, and this applies to a limited range of more serious offences. Indefinite retention of DNA without conviction is not allowed *per se*; according to the *Criminal Procedure (Scotland) Act* 1995 the destruction date is three years following the conclusion of proceedings and a sheriff may extend this for no more than two years,[63] and nothing prevents recurring police applications to amend further this date. In Australia, the material must be destroyed as soon as practicable after 12 months from the taking of the sample if proceedings have not been instituted or have been discontinued, or if the person has been acquitted and no appeal is lodged or the appeal is withdrawn, unless there is an outstanding arrest warrant for the person from whom the sample was taken.[64] Once such a warrant lapses the material must be destroyed, or if the person is apprehended destruction must occur within 12 months.[65] Furthermore, on application by a constable or the Director of Public Prosecutions, a magistrate may extend retention for 12 months if there are special reasons for doing so, and such an extension may be

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[57] *S. v. U.K.* (n.7), [119].
[58] *Police and Criminal Evidence Act* 1984, s.63F, as inserted by the *Protection of Freedoms Bill* 2011.
[59] *ibid.*
[60] *ibid.*, s.63E, as inserted by the *Protection of Freedoms Bill* 2011.
[61] *Criminal Procedure (Scotland) Act* 1995, s.18A, as inserted by the *Police, Public Order and Criminal Justice (Scotland) Act* 2006. The list of these is contained in s.19A6.
[62] *S. v. U.K.* (n.7), [109], [110].
[63] Ss.18A(4) and (5).
[64] *Crimes Act* 1914, s.23YD.
[65] *Crimes Act* 1914, s.23YD(4).

given more than once.[66] In New Zealand, a sample must be destroyed as soon as practicable after a DNA profile is obtained from it, and records of analysis must be destroyed as soon as practicable within two months of taking the sample, if the person is not charged, if the charge is withdrawn or the person is acquitted.[67] A district court judge may extend this on police application by increments of six months if good reason remains to suspect the person of committing a relevant offence or if retention of the samples and records is important to the investigation or to related criminal proceedings.[68]

Under the *Canadian Criminal Code*, bodily substances taken under warrant will be destroyed "without delay" if a match is not found between the suspect's DNA and the material from the crime scene or if the person is finally acquitted, or will be destroyed within a year if proceedings are discontinued.[69] An exception may be made to this by order of a provincial court judge if the bodily substances or results might reasonably be required in an investigation or prosecution of the suspect or of someone else in relation to the suspected offence.[70] In essence, the judge in this instance determines the appropriate retention period. The Canadian government is now proposing to expand this scheme, to facilitate retention after an acquittal or failure to proceed with a charge.[71] In the United States, the *DNA Fingerprinting Act* 2005 does not provide specific retention periods, but states that destruction occurs on receipt of a court order certifying that the charge has been dismissed or resulted in an acquittal, or that no charge was filed.[72] Other than this, there are no rules relating to DNA retention at the United States federal level.

Indefinite retention of DNA is problematic in terms of human rights; the European Court of Human Rights held that "blanket and indiscriminate" retention of DNA in England and Wales violated the right to a private and family life,[73] and favoured limiting non-conviction retention to serious suspected offences.[74] As noted above, DNA contains a range of intimate personal and family information, and thus retention engages and affects the right to privacy. This is compounded by the fact that the original decision

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[66] *Crimes Act* 1914, s.23YD(5) and (7).
[67] *Criminal Investigations (Bodily Samples) Amendment Act* 2009, s.60A.
[68] *ibid*., s.61(3A).
[69] *Criminal Code of Canada*, s.487.09.
[70] *Criminal Code of Canada*, s.487.09(2).
[71] CCLA (n.32).
[72] *DNA Fingerprinting Act* 2005 (n.21), 3084-5 (s.1002(2)).
[73] *S. v. U.K.* (n.7), [119]. For analysis see Kate Beattie, '*S and Marper v. UK*: privacy, DNA and crime prevention' (2009) European Human Rights Law Review 229; Liz Heffernan, 'DNA and fingerprint data retention: *S and Marper v. United Kingdom*' (2009) 3 European Law Review 491.
[74] *S. v. U.K.* (n.7), [109]-[110].

about inclusion on the databases may be purely a police matter. While initially retention in Scotland is contingent on police judgment,[75] the approval of a sheriff is required for extension of the time frame for unconvicted persons,[76] and judicial approval will similarly be required in England, Wales and Northern Ireland.[77] In Canada, a warrant is required before collection and a judge determines the retention period; in Australia, retention beyond a year requires judicial approval, while in New Zealand a district court judge must order retention at six monthly intervals. This judicial intervention is preferable to the police process in place in England and Wales until 2011, as it ensures proper judicial oversight and thus seeks to protect individuals from unjustified state intrusion into genetic privacy. Indeed, central to the decision of the United States District Court in *United States v. Pool* in balancing the competing interests was the "judicial involvement" and grand jury determination of probable cause before DNA testing.[78]

B. Form of DNA storage

Whether DNA is held as a sample or profile may also be relevant for privacy concerns.[79] As previously detailed, a wider range of intimate genetic information may be gleaned from the former, while a DNA profile is a set of identifying characteristics from areas of DNA that do not reveal a person's physical traits or medical conditions. Moreover, a DNA profile is held as a code which may only be read with the aid of technology.[80] Of the comparator jurisdictions focused on here, until 2011 only New Zealand clearly distinguished between the two formats, and requires the destruction of a sample as soon as practicable after a DNA profile is obtained from it.[81] Under the *Protection of Freedoms Bill*, England, Wales and Northern Ireland will require destruction of a DNA sample as soon as a DNA profile has been derived from the sample, or within six months, if this is sooner.[82] Though these policies limit the amount of information

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[75] *Criminal Procedure (Scotland) Act* 1995, s.18.

[76] S.18A(5).

[77] *Protection of Freedoms Bill* 2011, cl.3 (inserting s.63F into the *Police and Criminal Evidence Act* 1984).

[78] *U.S. v. Pool*, 645 F. Supp. 2d 903 (2009), 909-912.

[79] See Barbara Prainsack, 'Key Issues in DNA Profiling and Databasing: Implications for Governance' in Richard Hindmarsh and Barbara Prainsack (eds) *Genetic Suspects: Global Governance of Forensic DNA Profiling and Databasing* (Cambridge University Press 2010), chaps 2, 26 and 27.

[80] Parliamentary Office of Science and Technology (n.6).

[81] *Criminal Investigations (Bodily Samples) Amendment Act* 2009, s.60A.

[82] *Protection of Freedoms Bill* 2011, cl.14 (inserting s.63Q into the *Police and Criminal Evidence Act* 1984).

which may be obtained, the right to privacy is still affected by profiles' retention, given the "substantial amounts of unique personal data" contained in them, including information about familial relationships and ethnic origin.[83] In other words, storage as a profile may mitigate but not resolve completely concerns about privacy.

VI. DNA RETENTION AND THE PRESUMPTION OF INNOCENCE

A further right or interest which is affected by the retention of the DNA of unconvicted persons is the presumption of innocence. Non-conviction DNA databases embody the state's suspicion of the risk of (re-)offending on the part of certain people, thereby distinguishing them from "truly" innocent people who have never come to the attention of the police. In broad terms, this may compromise the precept that everyone should be presumed innocent, by keeping the DNA of legally innocent individuals on a database which is otherwise populated by convicted persons. While the schemes in place in the United Kingdom, the United States and Canada narrow the range of relevant unconvicted persons, this does not mitigate the effect on those who remain included in the database.

In *S. v. U.K.*, the applicants claimed that retention casts suspicion on unconvicted persons implying that they were not "wholly innocent".[84] While the European Court of Human Rights concurred, stating that unconvicted persons, who "are entitled to the presumption of innocence, are treated in the same way as convicted persons",[85] this factor underpinned its final judgment on the right to privacy rather than representing a discrete finding on the substantive point. Similarly, little attention has been paid in the United States to the presumption of innocence *per se* in relation to DNA databases. In *United States v. Pool*, when dismissing the claim that DNA collection breaches procedural due process as protected by the Fifth Amendment, the District Court for the Eastern District of California noted that the DNA destruction procedures after exoneration or dismissal of charges ensure that "the risk of an innocent person's DNA being included in CODIS [the US federal DNA database] is minimal".[86] However, in *United States v. Mitchell* the court granted the defendant's motion opposing the collection of a pre-trial DNA sample,[87] stressing the neglect in *United States v. Pool* of "the moral polestar of our criminal justice system – the presumption of

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[83] *S. v. U.K.* (n.7), [73]-[76].
[84] *ibid.*, [89].
[85] *ibid.*, [122].
[86] *U.S. v. Pool*, 645 F. Supp. 2d 903 (2009), 915.
[87] *U.S. v. Mitchell*, 681 F. Supp. 2d 597 (2009).

innocence".[88] However, this reference to the presumption, as in *S. v. U.K.,* was inextricably bound up with the right to privacy, and concerned collection and the storage that follows rather than retention specifically. In the United States, however, the presumption of innocence is simply a rule of evidence which allows the defendant to stand mute at trial and places the burden upon the state to prove the charge against him beyond a reasonable doubt.[89] Thus, despite the instinctive feeling that DNA retention affects a person's right to be presumed innocent, the presumption as legally construed is not in fact compromised in the United States. The same holds true for New Zealand.

In the United Kingdom, the maintenance of formalised suspicion in the form of DNA retention may pose problems in a rights' sense, given that, unlike the situation in the United States, the presumption of innocence in the jurisprudence of the European Court of Human Rights extends beyond a strictly procedural guarantee to encompass a "reputational" aspect which aims to protect the image of the person.[90] As Trechsel notes, complex problems surround the application of this element of the presumption of innocence.[91] Judicial decisions or reasoning reflecting an opinion that an acquitted person is guilty, such as requiring him to pay the costs of the proceedings or compensation or stating that had a prosecution not been time-barred it would "very probably have led to … conviction", breach this aspect of Article 6(2).[92] Moreover, where a court expresses suspicion about an acquitted individual (rather than opining that he is guilty), such as by refusing compensation to him or by saying that suspicion has not been "dispelled", the presumption will also have been infringed.[93] However, "[t]he voicing of suspicions regarding an accused's innocence is conceivable as long as the conclusion of criminal proceedings has not resulted in a decision on the merits of the accusation."[94] In other words, where criminal proceedings are discontinued, statements which describe a state of suspicion, as opposed to those which constitute a determination of guilt, are compatible with the presumption of innocence.[95] Non-conviction

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[88] *ibid.*, 606.

[89] The Fifth Amendment to the U.S. Constitution (see John N. Mitchell, 'Bail Reform and the Constitutionality of Pretrial Detention' (1969) 55 Virginia Law Review 1223, 1231); *New Zealand Bill of Rights Act* 1990, s.25 (see *Hansen v. R.* [2007] NZSC 7).

[90] Stefan Trechsel, *Human Rights in Criminal Proceedings* (Oxford University Press 2005), 164.

[91] *ibid.,* 166.

[92] *Minelli v. Switzerland*, 5 E.H.R.R. 554, [37]-[38].

[93] *Sekanina v. Austria*, 17 E.H.R.R. 221, [29]. Also see *Asan Rushiti v. Austria*, App. no. 28389/95 (European Court of Human Rights, March 21, 2000).

[94] *Sekanina v. Austria*, *ibid.*, [30].

[95] *Nölkenbockhoff v. Germany*, 13 E.H.R.R. 360 (European Court of Human Rights); *Englert v. Germany*, 13 E.H.R.R. 392 (European Court of Human Rights), [37]-[39].

DNA retention is not an expression of guilt but arguably denotes suspicion on the part of the state as to the future criminality of the person and his likelihood of re-offending; in *S. v. U.K.*, the Grand Chamber stated that "the retention of the applicants' private data cannot be equated with the voicing of suspicions".[96] While this distinction is not explained or explored by the court, one can speculate that it is the absence of express articulation and dissemination of the fact of DNA retention which differentiates it from the voicing of suspicion. One could respond that DNA retention is on a continuum from the latter as it represents the state's opinion about criminal tendencies on the part of the charged or acquitted person. If such an analogy is accepted and, despite the comment of the Grand Chamber, state storage of DNA is conceived of as representing a type of expression of suspicion, then the presumption of innocence in its reputational sense may be threatened.

In Canada, DNA profiles derived from bodily substances obtained from a suspect under warrant are not included in the national DNA data bank and are used only in the investigation and prosecution of a designated offence.[97] In other words, speculative searching is not permitted. This contrasts to the situation in the other comparator jurisdictions where the DNA of unconvicted and convicted persons is stored in the same repository and subject to the same searching mechanism. In the United States, the DNA database is subdivided into a Forensic Index of profiles deriving from crime scene samples, and an Offender and Arrestee Index;[98] New Zealand has two separate databases, the Crime Sample Database and the National DNA Database which contains profiles of individuals whether convicted or not,[99] while the Australian NCIDD and the United Kingdom's NDNAD similarly contain both unconvicted and convicted parties' DNA. The Canadian approach is a model of best practice by differentiating between the samples from convicted and arrested individuals, and by precluding exploratory comparisons of crime scene and stored samples. This distinction mitigates the potentially stigmatising effect of DNA retention and safeguards the presumption of innocence as protected by section 11(d) of the *Canadian Charter of Rights and Freedoms*.

An analogy may be drawn between DNA retention and pre-trial detention after the refusal of bail which also appears to equate an individual with convicted persons. Bail may be refused if there is,

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[96] *S. v. U.K.* (n.7), [122].

[97] Department of Justice (Canada), '*Criminal Code* DNA Provisions' <http://www.justice.gc.ca/eng/cons/dna-adn/code.html> accessed May 2, 2011.

[98] Federal Bureau of Investigation (n.8).

[99] Institute of Environmental Science and Research (n.8), 11.

inter alia, convincing evidence that pre-trial release could not assure the safety of any other person and the community, or to prevent the commission of an offence.[100] Indeed, Laudan notes that bail hearings cannot be squared with a broad construal of the presumption of innocence:[101] thus if refusal of bail is permissible surely the less invasive retention of DNA must be too. Restrictions on the refusal of bail indicate what is appropriate in the context of DNA retention, given that in both instances the rights of an individual who is legally innocent are restricted by virtue of a possible risk of criminality. "Clear and convincing evidence"[102] or "strong and specific reasons" are required for restraining the defendant's liberty[103] on account of his presumed innocence and the rule of respect for individual liberty:[104] in other words, each bail case is examined on its merits unlike the "blanket" retention of DNA which could, until at least 2011, occur without conviction in England and Wales. Conversely, in contrast to pre-trial detention, and as the United Kingdom government emphasised in *S. v. United Kingdom*, there appears to be no practical consequence of retention for the relevant individual unless his DNA later matches a crime-scene profile.[105] Certainly, the impact on an individual's rights as a result of DNA retention is more remote and undoubtedly of less immediate effect than the refusal of bail, but the incursion into personal freedoms that it entails is no less real. Storing DNA means state retention of unique personal data which may also reveal information about familial and genetic relationships and ethnic origin.[106] While the retention of DNA does not compromise liberty in the physical sense, a similarly cautious approach should be adopted when considering whether DNA should be stored after acquittal, or when no action at all is taken, given the potential use of DNA and the level of personal information contained within it. Moreover, bail refusal by definition ends on acquittal or the dropping of charges, whereas DNA retention may not. Given that the refusal of bail follows a court decision, judicial intervention should similarly be required for

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[100] *Bail Reform Act* 1984 (U.S.); European Convention on Human Rights, Art. 5; *Criminal Code of Canada*, s.515(10)(b); *Bail Act* 2000 (New Zealand), s.8.

[101] Larry Laudan, 'The Presumption of Innocence: Material or Probatory?' (2005) 11 Legal Theory 333, 337-338.

[102] *Bail Reform Act* 1984, 18 U.S.C. § 3142(f).

[103] Andrew Ashworth, 'Four threats to the presumption of innocence' (2006) 10 International Journal of Evidence and Proof 241, 244.

[104] *W. v. Switzerland*, 17 E.H.R.R. 60; *Labita v. Italy*, 46 E.H.R.R. 50; *Smirnova v. Russia*, 39 E.H.R.R. 450.

[105] *S. v. U.K.* (n.7), [94].

[106] *ibid.,* [73]-[76].

the retention of a DNA sample, as occurs in Canada and after a prescribed time frame in the United Kingdom and New Zealand.

VII. POLICY TRANSFER

Incremental developments relating to non-conviction DNA databases across common law states may imply a convergence of laws and policies. While it is questionable whether these changes may be characterised as involving policy transfer as such, which would require purposeful imitative activity, certainly there is evidence of policy spread which involves societies becoming more alike purely by the successive adoption of specific policy approaches.[107] United States state agencies and projects[108] and periodical police literature[109] on DNA databases cite the "U.K. [*sic*] experience" approvingly, while academic commentary reviews critically the English approach.[110] Nevertheless, an exploration of United States Senate and local debates indicates little evidence in political discourse or legislative debate of conscious or explicit emulation of other jurisdictions' experiences or policies. Caution was sounded in New Zealand during the third reading of the *Criminal Investigations (Bodily Samples) Amendment Bill* about the "British" approach,[111] while in the academic

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[107] Trevor Jones and Tim Newburn (n.4), 103; Colin Bennett, 'What is policy convergence and what causes it?' (1991) 21 British Journal of Political Science 215, 220-1.

[108] See US National Institute of Justice DNA Initiative, 'Solving Property Crimes with DNA in the United Kingdom' <http://www.dna.gov/solving-crimes/property-crimes/uk-experience> accessed May 2, 2011; Human Genome Project (HGP), 'DNA Forensics' <http://www.ornl.gov/sci/techresources/Human_Genome/elsi/forensics.shtml> accessed May 2, 2011; W. Mark Dale, Owen Greenspan and Donald Orokos, *DNA Forensics: Expanding Uses and Information Sharing* (The National Consortium for Justice Information and Statistics, 2006), 3; Christopher H. Asplen Smith, *The Application of DNA Technology in England and Wales* (Smith, Alling, Lane, 2004) available at <http://www.ncjrs.gov/pdffiles1/nij/grants/203971.pdf> accessed May 2, 2011.

[109] See Ken Wallentine 'Collection of DNA Upon Arrest: Expanding Investigative Frontiers' *The Police Chief* (Alexandria, January 2010) <http://policechiefmagazine.org/magazine/index.cfm?fuseaction=display&issue_id=12010&category_ID=3> accessed May 2, 2011.

[110] See David H. Kaye, 'Two Fallacies About DNA Data Banks for Law Enforcement' (2001) 67 Brooklyn Law Review 179; Mark A. Rothstein and Sandra Carnahan, 'Legal and Policy Issues in Expanding the Scope of Law Enforcement DNA Data Banks' (2001) 67 Brooklyn Law Review 127; Mark A. Rothstein and Meghan K. Talbott, 'The Expanding Use of DNA in Law Enforcement: What Role for Privacy?' (2006) 34 Journal of Law and Medical Ethics 153; Michelle Hibbert, 'DNA Databanks: Law Enforcement's Greatest Surveillance Tool' (1999) 34 Wake Forest Law Review 767.

[111] Parliament of New Zealand, *Criminal Investigations (Bodily Samples) Amendment Bill*, Third Reading, (October 27, 2009), Vol. 658, 7495, *per* Rahui Katene.

setting it has been argued that Australia is likely to follow English expansionism.[112] Conversely, discourse in Scotland emphasises resoundingly the differences between its scheme and that in place in England until 2011.[113]

Policy convergence in the context of non-conviction DNA databases is evident when countries resolve in a comparable way the competing demands of crime control and human rights. Indeed, the dominant narrative on non-conviction DNA databases has become one of risk rather than focusing on the appropriate level of state intervention in a liberal democracy, and this explains political support for the development and provides impetus for further expansion.[114] While risk has always been of concern in criminal justice, now the political and popular preference is for risk control which aims to prevent the recurrence of a new crime and to eliminate risk completely, rather than management or reduction which accepts the inevitability of error.[115]

In England and Wales, risk was to the fore in justifying the continued existence of the non-conviction DNA database. *S. v. United Kingdom* prompted a lengthy consultation process by the Home Office, ostensibly "to provide a proportionate balance between protecting communities and protecting the rights of the individual"[116] though the lack of a rights-focus in the resulting paper, "Keeping the right people on the database: Science and public protection", is noticeable. The Home Office stressed that any change to the existing policy would "reduce the number of detections that DNA delivers, and will therefore have some adverse impact on public protection" and thus it aimed "to minimise this risk while complying with the … ruling" of the court.[117] This was an explicit acknowledgment that the Home Office sought to maintain as lengthy

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[112] Kirsten Edwards, 'Cold Hit Complacency: The Dangers of DNA Databases Re-Examined' (2006-2007) 18 Current Issues in Criminal Justice 95.

[113] See Scottish Government, *Acquisition and Retention of DNA and Fingerprint Data in Scotland. Consultation Report* (Scottish Government 2009), para. 18.

[114] This stems from the seminal work of theorists such as Mary Douglas and Ulrich Beck. See Mary Douglas and Aaron Wildavsky, *Risk and Culture: An Essay on the Selection of Technical and Environmental Dangers* (University of California Press 1982), and Ulrich Beck, *Risk Society: Towards a New Modernity* (Sheffield Region Centre for Science and Technology 1992).

[115] Clear and Cadora contend that risk calculation may be for one of three purposes: risk control, risk management or risk reduction. Todd Clear and Eric Cadora, 'Risk and Correctional Practice' in Kevin Stenson and Robert R. Sullivan (eds) *Crime, Risk and Justice: The Politics of Crime Control in Liberal Democracies* (Willan 2001), 59.

[116] Home Office, 'Keeping the right people on the DNA database – consultation and response' <http://www.homeoffice.gov.uk/documents/cons-2009-dna-database/> accessed May 2, 2011.

[117] Home Office, *Keeping the right people on the database: Science and public protection* (Home Office 2009), para. 2.9.

a retention period as would be permissible under the European Convention on Human Rights, and the definite emphasis in the consultation document is on risk rather than rights' analysis: "In determining the most suitable retention period, the key question is one of risk".[118] Similarly, empirical studies on so-called "preventable crimes" have been relied upon in policy development in the United States and are often cited at federal and state level, indicating the growing centrality of risk in both discourse and practice.[119] Such reference to science in criminal justice appeals to politicians who prefer the expertise of technical scientists who are seen as objective and non-ideological, in contrast to the "softer", and by implication ideologically driven, expertise of human right lawyers, criminologists, psychologists and political scientists, who are neglected increasingly in the policy making process. The use of science in criminal justice is ostensibly "universal, general, uniform, and neutral"[120] and fits with the distrust of professionals, criminologists, officials, and practitioners identified by Rock in the Home Office the mid-1990s[121] and the pervasive fall of "liberal

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[118] *ibid*., para. 6.6. For criticism of the methodology, see Keith Soothill and Brian Francis, *Keeping Innocent People on the DNA Database* (2009), available as Appendix 1 to *The Information Commissioner's response to the Home Office consultation paper on the retention, use and destruction of DNA data and fingerprints* available at <http://www.ico.gov.uk/upload/documents/library/data_protection/notices/response_to_ho_consultation_may09.pdf> accessed May 2, 2011.

[119] See City of Chicago, 'Chicago's Study on Preventable Crimes' <http://sccvc.org/sccvc/news/Chicagos_Study_on_Preventable_Crimes03-04-2008.pdf> accessed May 2, 2011; 'Maryland Study on Preventable Crimes' <http://www.denverda.org/DNA_Documents/MarylandDNAarresteestudy.pdf> accessed May 2, 2011. See Congressional Records (Senate) July 29, 2005, S9528 *et seq*., and December 16, 2005, S13756, *per* Mr Kyl; July 14, 2008, H6438 and December 10, 2009, S12904-S12907, *per* Mr Schiff. For example, see the minutes of the meeting of the Assembly Committee of Nevada on the Judiciary, Seventy-Fifth Session, March 13, 2009; Governor O'Malley, 'Comments on DNA Collection' (Maryland Politics Watch, March 26, 2009) <http://maryland-politics.blogspot.com/2009/03/omalley-comments-on-dna-collection.html> accessed May 2, 2011; 'House Judiciary Committee Adopts Schiff Amendments to Improve DNA Tools for Law Enforcement and Investigators and Eliminate DNA Backlogs' (*Website of Congressman Adam Schiff*, June 11, 2008) <http://schiff.house.gov/index.cfm?sectionid=124&parentid=25&sectiontree=6,25,124&itemid=276> accessed May 2, 2011.

[120] Richard Ericson and Clifford Shearing, 'The Scientification of Police' in Gernot Bohme and Nico Stehr (eds) *The Knowledge Society (*Kluwer Publishing 1986), 133.

[121] Paul Rock, 'The Opening Stages of Criminal Justice Policy Making' (1995) 35 British Journal of Criminology 1, 2.

elitism" in the governance of crime.[122] Thus, while collection and retention of DNA encroaches on civil liberties, policy makers may couch the debate in terms of empirical validity to ensure the palatability of such policies. Nevertheless, the discourse of risk has yet to result in systematic retention of DNA from non-convicted persons in Canada, but it has contributed to the extension of schemes in Australia and New Zealand.

VIII. CONCLUSION

This analysis demonstrates the points of commonality that are emerging in the context of non-conviction DNA databases in various common law countries, though divergence remains regarding the populations from whom DNA may be acquired and the length of time for which DNA may be retained. Underpinning this is a shift to a risk-based approach, although Canada seems to have withstood such pressures to a larger extent. As the Canadian Supreme Court has commented, "The taking and retention of a DNA sample is not a trivial matter and, absent a compelling public interest, would inherently constitute a grave intrusion on the subject's right to personal and informational privacy."[123] In addition, inclusion on a state database is stigmatising and represents an expression of suspicion by the state. Thus, the schemes in place should be limited to the greatest extent in terms of the populations included and the retention periods, and should require judicial warrant: to this end, notwithstanding the ability to use all necessary force to obtain samples, the Canadian federal model seems preferable.

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[122] See Ian Loader, 'Fall of the "Platonic Guardians": Liberalism, Criminology and Political Responses to Crime in England and Wales' (2006) 46 British Journal of Criminology 561, 562 *et seq*.

[123] *R. v. R.C.* 2005 SCC 61, [2005] 3 S.C.R 99, [39].